

I. INTRODUCTION

During the 1990s, the Food Stamp Program (FSP) caseload experienced substantial growth, followed by an equally substantial decline. In the four years between 1990 and the caseload peak in 1994, the FSP caseload grew by almost 9 million individuals, an increase of over 44 percent (Figure 1). Monthly growth rates were largest before 1992, when the caseload grew at an average of over 1 percent per month (Figure 2). Then, between 1994 and 2001, the caseload decreased by more than 12 million people. Caseload declines were sharpest in 1997, when the number of participants decreased by an average of more than 1 percent per month; the caseload fell by 12.5 percent that year.

Researchers and policymakers have thoroughly examined the factors that influence FSP caseload changes. Economic conditions have a significant effect on caseload size. The economic recession of the early 1990s drove much of the increase in FSP participation during that period, while the strong economic growth of the late 1990s is credited with causing much of the decline. Though having a smaller overall impact on caseload size, changes in public policy also are responsible for caseload trends. Policies to increase participation rates in the early 1990s led to larger caseloads, while welfare reform in the late 1990s led to smaller caseloads.

Despite a general agreement about which factors affect caseload size, little is known on how these factors influence participation decisions. The confusion arises because monthly changes in caseload size are a function of the decisions of nonparticipants to enter the program, as well as the decisions of participants to exit (or not exit) the program. If more people enter the program than exit from it, the caseload size will increase; if more people exit from the program than enter it, the caseload size will decrease. Different factors can influence entry and exit decisions in different ways, but researchers and policymakers can observe only the net effect.

FIGURE 1
FSP PARTICIPATION, 1990 - 2002

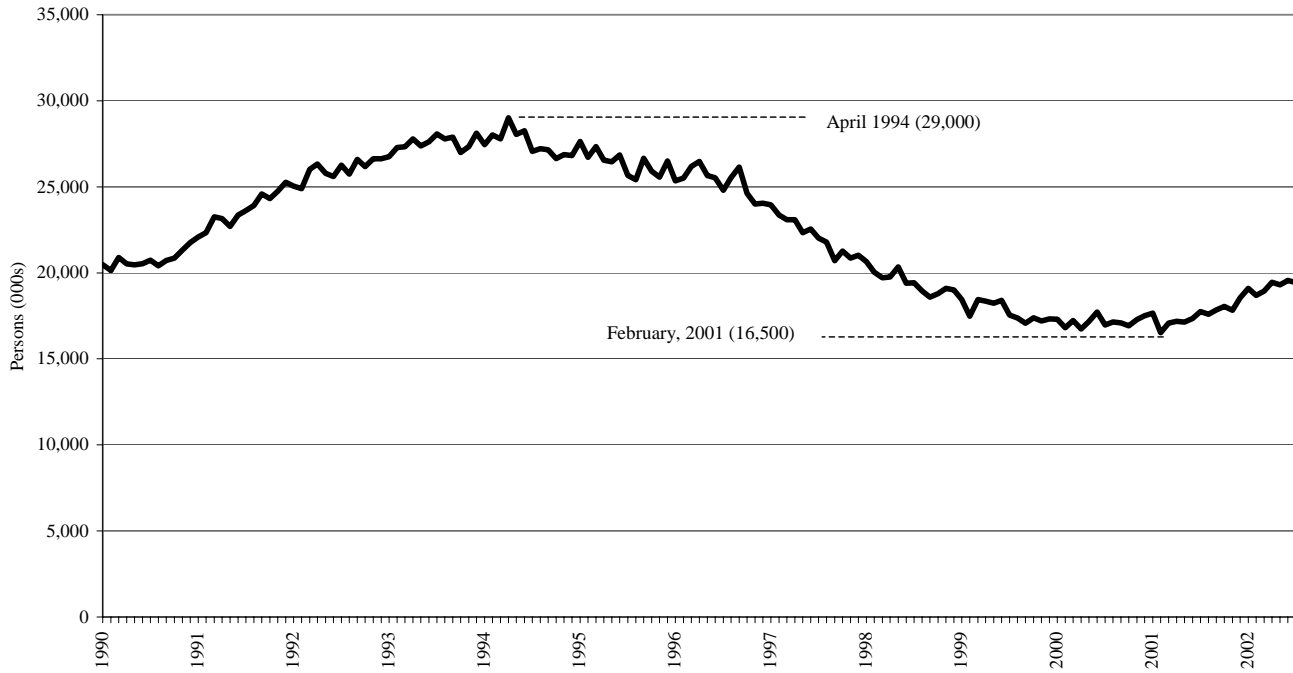
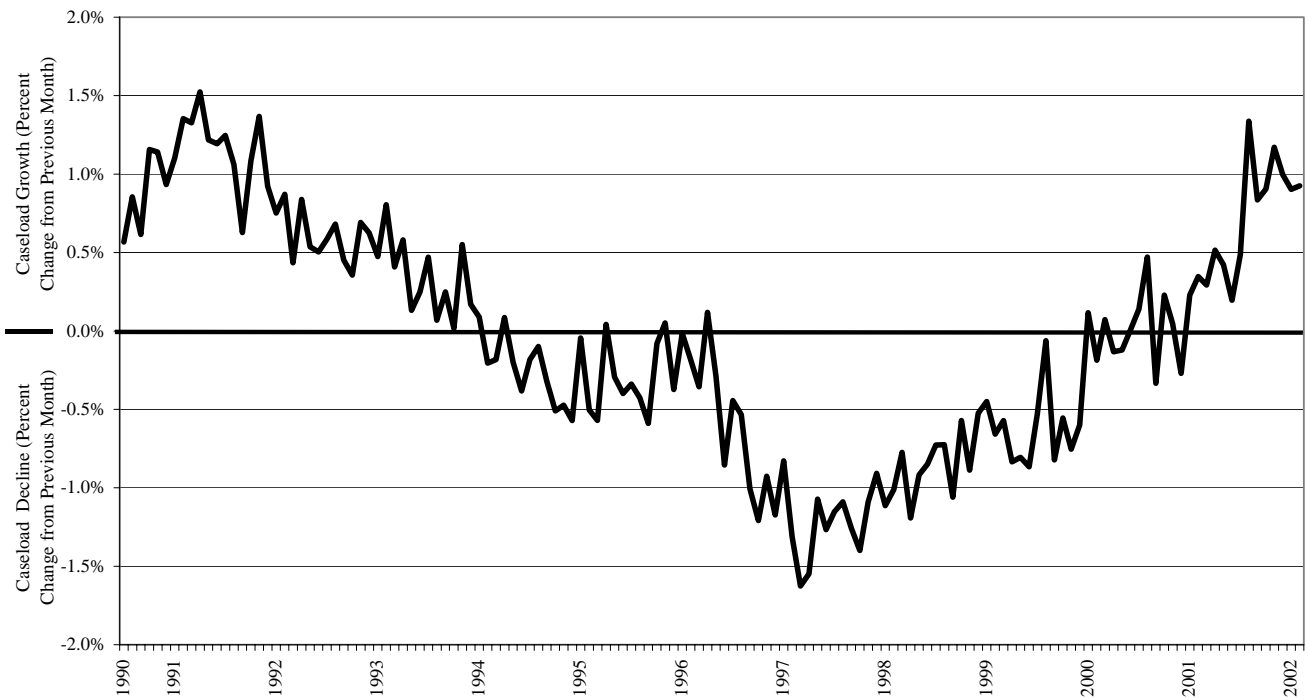


FIGURE 2
MONTHLY CHANGE IN FSP PARTICIPANTS, 1990 - 2002



SOURCE: FSPQC data for years shown (11 month moving average).

This study examines changes in entry and exit rates over time, exploring the extent to which the caseload increases of the early 1990s and the declines later in the decade were caused by changes in entry rates versus changes in exit rates. We also examine trends in the length of time FSP participants received food stamps, and explore how these spell lengths varied among different subgroups of the population.

A. STUDY OBJECTIVES AND RESEARCH QUESTIONS

Research on the FSP often discusses the number of its participants in static terms. For instance, the most recent report on FSP participation from the U.S. Department of Agriculture (USDA) explains that, “in Fiscal Year 2002, [the FSP] served an average of 19 million people per month,” and that “over half (51.0 percent) of all food stamp participants were children, the majority of whom lived in single parent households” (Rosso and Faux, 2003). Discussing the FSP in static terms is the best way to obtain a “snapshot” understanding of the size and characteristics of program participants. To understand caseload trends, however, one must consider the program in dynamic terms as well.

While the FSP served an average of 19 million people per month in 2003, the 19.1 million individuals participating in January 2002 were not entirely the same as the 18.7 million individuals participating in February 2002 (Table 1). Some of the participants in January exited the program before February, while other individuals who did not participate in January entered in February. The net effect of this entry and exit was a decline of 411,000 individuals. This suggests that *at least* 400,000 individuals left the program before February 2002, and it is likely that far more than 400,000 left and were replaced by new entrants.

TABLE 1
MONTHLY CHANGE IN FSP PARTICIPANTS, 2002

Month (2002)	Number of Participants (000s)	Monthly Net Change (000s)	Change from January (000s)
January	19,094		
February	18,683	-411	-411
March	18,938	+255	-156
April	19,443	+505	+349
May	19,302	-141	+208
June	19,556	+254	+462
July	19,426	-130	+332

The cumulative effect of monthly exits and new entrants into the FSP explains caseload trends. Between January and July 2002, more individuals entered the program than exited, leading to an overall net increase.

Examining the changes in rates of program entry and exit can help to shed light on why the caseload is increasing or decreasing at any point in time. For this study, we measure entry patterns using the replacement rate (defined as the number of new entrants in a given month, expressed as a percent of the previous month's total caseload), and we measure exit patterns using the exit rate (the number of individuals participating in the previous month but not in the current month, expressed as a percent of the previous month's caseload). A caseload increase could be caused by an increase in the replacement rate, or by a decrease in the rate of exit. In the special case of a "steady state" in which the caseload size is the same from month to month, the number of individuals exiting the program would be replaced by an exact number of new entrants each month. If the caseload were to decline in one month, it would indicate that the number of exiters was greater than the number of new entrants. This could be because the exit rate increased, or because the replacement rate decreased.

A separate measure of food stamp dynamics closely related to entry/replacement rates and exit rates is participation spell length. Some individuals who enter the FSP use the program as a short-term safety net, exiting in a matter of months. Other individuals stay in the program longer, receiving benefits for years. If individuals tend to stay in the program longer, the caseload will rise, all else remaining equal (in other words, the exit rate will decrease). Likewise, if individuals tend to stay on the program for shorter periods of time, the caseload will fall, all else being equal. Examining patterns in spell lengths can be equally useful in understanding caseload dynamics.

The objective of this study is to better understand recent trends in entry and exit into the FSP. The five research questions addressed in this study are:

1. How did growth rates, replacement rates, and exit rates change over the course of the 1990s?
2. Are the changes in the growth rates explained by changes in the replacement rate, changes in the exit rate, or both?
3. How long did individual FSP participation spells tend to last?
4. Have FSP spell lengths changed over time?
5. Did replacement rates, exit rates, and spell lengths vary for FSP subpopulations, including the elderly, able-bodied adults, single mothers, and the working poor?

B. SOURCES OF DATA

We use two sources of data in this analysis: the Food Stamp Program Quality Control (FSPQC) database and the Survey of Income and Program Participation (SIPP). The FSPQC data are useful because they contain a large sample of FSP participants. However, the FSPQC is not a longitudinal database, and unlike the SIPP, program exits cannot be directly observed. Table 2 compares the advantages and disadvantages of using the separate data sources for this analysis.

The separate disadvantages of the two data sets can lead to questions about the accuracy of the results. For this reason, we compare estimates between the two data sets. When both data sets lead us to a similar conclusion about participation patterns, we have increased confidence in the findings. When estimates differ, however, it is not always clear which estimates are more reliable. The remainder of this section describes the FSPQC and SIPP data sets.

1. FSPQC

The FSPQC is an administrative database compiled annually from an ongoing review of active FSP cases. The FSPQC is based on probability samples constructed within each of the 50 states and the District of Columbia.² Because the purpose of the FSPQC is to determine whether each sampled household is eligible and is receiving the correct benefit amount, the database contains extensive information on household eligibility characteristics, including income sources, demographic characteristics and, most important for this analysis, the month that the household entered the FSP.

Each state's independent monthly sample of food stamp cases generally is proportionate to the size of the monthly participating caseload. Using weights designed to match the administrative participation totals, national estimates of the FSP population can be constructed each month. Our analysis uses FSPQC files from fiscal years 1990 through 2002. Monthly sample sizes range from 3,600 to 5,600 FSP households.³

² Data on Guam and the Virgin Islands also are collected but were not examined in this study.

³ Annual sample sizes range from 47,000 households in FY 2001 to 65,000 households in FY 1990.

TABLE 2

ADVANTAGES AND DISADVANTAGES OF FSPQC AND SIPP DATA

Data Source	Advantages	Disadvantages
FSPQC	Large sample of FSP participants allows for analysis of monthly patterns	Caseload exits cannot be observed directly, and estimates are influenced by sampling variability in caseload entry estimates
	Consistent collection of data allows for analysis over many years	New entrant households are underrepresented in sample
SIPP	Household entry into and exit from FSP self-reported	Inconsistencies between 1996 panel and previous panels
		Underreporting of FSP receipt may bias results

While the FSPQC data reflect a monthly cross section of the Food Stamp caseload, the data also can be used to deduce longitudinal patterns. Repeat cross-section analysis can be used to examine caseload changes from month to month and derive the number of individuals that exit based on the number of new entrants and on the total caseload change (Wilde, 2001). In a given month (Month A) the number of new entrants is simply the number of participants in their first month of FSP receipt (the Month A new entrant cohort). The change between the estimated number of people in their first month of receipt in Month A and the estimated number in their second month of receipt in the subsequent month (Month B) is the number of individuals of the Month A new entrant cohort that exit after one month of participation. The change in the estimated number in their second month (Month B) compared to their third month (Month C) is the number that exit after two months. Repeating this for all possible spell durations and for all entry cohorts yields estimates of caseload dynamics.

Estimates of replacement and exit rates in FSPQC are subject to sampling variability because they are based on the distribution of characteristics in each month's sample. In the FSPQC data, the total number of participants each month is not subject to sampling variability; it is equal to the number of participants known through the administrative totals. However, each month, the proportion of participants in their first, second, third, and subsequent months of participation is subject to sampling variability. Thus, if there are 4,000 total fewer participating households between Month A and Month B, and we estimate that there are 2,000 new entrant households, then we would estimate that there are 6,000 exiting households. The 4,000 net change in participation is not subject to sampling variability, but the estimate of 2,000 new entrants, and hence the estimate of 6,000 exiters, are subject to sampling variability.

While the FSPQC data are intended to be representative of the U.S. FSP population, they do not appear to be representative with respect to entry rates. Each month, there appear to be too few individuals in their first and second months of FSP receipt, based on the number of participants in subsequent months. For example, the number of individuals in their second month of FSP participation in March 1996 was 85.5 percent *greater than* the number in their first month in February 1996 (Table 3). If the FSPQC sample were representative, then the number in their second month of receipt in March would likely be less than or approximately equal to the number in their first month in February.⁴ In many months, there is a similar undercount of

⁴ Since the February and March estimates of the number in their first and second month of participation were based on independently drawn random FSPQC samples, sampling variability could lead to a larger number in the second month of participation in March than in the first month of participation in February. However, given the size of the FSPQC samples, it is extremely unlikely that sampling variability alone would lead to the 85.5 percent increase that was observed over this period.

TABLE 3

EXAMPLE OF FSPQC UNDERSAMPLE OF INDIVIDUALS IN FIRST AND SECOND MONTH OF RECEIPT: FEBRUARY 1996

	Individuals					
	First Month, February 1996	Second Month, March 1996	Third Month, April 1996	Fourth Month, May 1996	Fifth Month, June 1996	Sixth Month, July 1996
Original	808,392	1,499,438	2,030,031	1,480,563	1,088,369	928,740
% Change		85.5	35.4	-27.1	-26.5	-14.7
Adjusted	2,098,190	1,928,237	1,777,835	1,296,628	953,158	813,360
% Change		-8.1	-7.8	-27.1	-26.5	-14.7

Source: 1996 FSPQC data.

people in their second month of participation. For example, the number of individuals in their third month of participation April 1996 was 35.4 percent greater than the number in their second month in March.

The reason for the undercount of individuals in their first and second months of FSP participation is unclear. The undercount occurs in almost all months and, while the magnitude of the undercount varies, it occurs throughout the study's observation period. Our theory is that there are some types of FSP cases that take longer to process. Since the FSPQC sample is pulled from case records, unprocessed records would not be pulled for this sample. In other words, it may be more accurate to think of the FSPQC sample as representative of all FSPQC cases whose records are completely entered into a state's case records system at the time the sample is selected, as opposed to being representative of all FSPQC cases receiving benefits.

For the purposes of estimating the length of participation spells, we used a weighting adjustment to correct for the undercount of individuals in their first and second months of FSP

participation. We assumed that in each month, the cases sampled in their third month of FSP participation are representative of all FSP cases in their third month. Using exit rates computed in the SIPP for all individuals entering the FSP between 1990 and 1999, we assumed that 8.1 percent of individuals exited between their first and second months of participation and that 7.8 percent exited between their second and third months of participation.⁵ Thus, we calculated the number of individuals in their second month of participation as:

$$p^2_{t+1} = p^3_{t+2} / (1 - .078) \quad (1)$$

Where,

p^2_{t+1} = the number of individuals in their second month of participation in month $t+1$
 p^3_{t+2} = the number of individuals in their third month of participation in month $t+2$

We then calculated the number of individuals in their first month of participation as:

$$p^1_t = p^2_{t+1} / (1 - .081) \quad (2)$$

Where,

p^1_t = the number of individuals in their first month of participation in month t

We rescaled the weights for all FSP participants so that the totals still summed to the same population targets (the total number of households receiving FSP benefits each month). Rescale factors were computed separately for each cohort of FSP entrants (where one cohort includes the individuals that begin their participation spell in month t , their second month in month $t+1$, their third month in month $t+2$, etc.).

Given this methodology, which assumes a constant exit rate over time for cases in their the first and second month of participation, fluctuations in FSPQC-based replacement and exit rates actually measure fluctuations in the number of cases in at least their third month of FSP

⁵ See Table 16 in Chapter III.

participation. While it is possible that the exit rates for first- and second-month participants would change over time, we feel that these changes would be small.⁶

2. SIPP

The SIPP is a multipanel longitudinal survey of households conducted by the U.S. Bureau of the Census. The SIPP collects demographic and socioeconomic information on individuals over periods as long as 48 months to provide detailed monthly measures of household composition, labor force behavior, income, and program participation. The SIPP sample is nationally representative and includes an oversample of low-income households.

For this analysis, we used all five of the SIPP panels that started in the 1990s (the 1990, 1991, 1992, 1993, and 1996 panels). Table 4 presents basic reference period and sample size information for each panel.

Each SIPP panel consists of multiple interview waves that are four months apart. During each interview, respondents are queried about their income and program participation status during the previous four months. Respondents also are queried about their program participation activities prior to the start of the panel. This information can be combined to track the FSP participation patterns of each household over multiple years. Sample weights are used to construct national estimates of participation patterns.

For the 1990 through 1993 SIPP panels, the Census Bureau used the longitudinal nature of the data to impute missing information for many individuals. If, for instance, an individual missed one wave of SIPP interviews, but participated in the previous and subsequent waves,

⁶ Estimates of the *levels* of replacement and exit rates are sensitive to the assumed exit rates for first- and second-month participants. However, because the assumptions are based on the best available data, and because, in general, the assumptions yield a replacement rate that is above the exit rate during periods of FSP growth and below during periods of decline, we feel these are the most defensible assumptions.

TABLE 4
SIPP PANEL INFORMATION

Panel	Sample Size ^a	No. of Waves	Reference Period	
			Start	End
1990	61,900	8	January 1990	August 1992
1991	40,800	8	January 1991	August 1993
1992	56,300	10	January 1992	April 1995
1993	56,800	9	January 1993	December 1995
1996	95,400	12	January 1996	December 1999

^aNumber of original sample members (people) in Wave 1.

missing data would be imputed based on reported data in the adjacent waves. For the 1996 panel, the Census Bureau reduced the number of variables for which these longitudinal edits were constructed. We developed our own longitudinal edits for the 1996 panel.

Our analysis uses data from all five SIPP panels active during the 1990s. In months where the panels overlap, we used data from all active panels and adjusted weights according to the Census Bureau's recommended adjustments (U.S. Department of Commerce, 2001). We used the data from the longitudinal panel files (which, for the 1990 through 1993 panels include longitudinal edits of key data) and monthly weights obtained from the core-wave files. Monthly weights are assigned to all individuals responding to the survey for a given month, and the weights sum to the U.S. population that month. This allows us to use more SIPP observations since, unlike longitudinal weights, monthly weights are assigned to people regardless of whether they are absent from the survey in other months. Variation in monthly estimates can be explained in part by variation in a household's monthly weight over time.

In comparing the 1996 panel with previous panels, we discovered that FSP entry and exit in the 1996 panel was significantly more volatile than those of earlier panels. In the 1996 panel,

unadjusted replacement and exit rates were uniformly higher between one and two percentage points. (See Appendix A for more details.) It is unclear what caused the increase in volatility. For the analysis presented in this report, which relies on changes in entry and exit rates over time, we needed to remove the one-time shift in volatility. To do this, we adjusted the 1996 SIPP-based rates downward by our estimate of the shift in volatility. In the end, it turns out that some of the estimates produced in this report were extremely sensitive to our estimate of the size of this shift. This sensitivity is discussed more in Chapter II.

C. PREVIOUS RESEARCH

Gleason et al. (1998) use data from the 1991 SIPP panel (covering 1991 and 1992) to calculate FSP-participation spell dynamics. They estimate that among all households that enter the FSP at some point in time, most exit the program relatively quickly. Over 50 percent of households exit in or before nine months of participation. However, this does not mean that 50 percent of all individuals participating at a given point in time will have participation spells of nine months or less. In a given month, the FSP consists of not only those short-term spells (lasting only several months) that began within the last several months, but also it includes all long-term spells that started within the last several years. Gleason et al. examined all households participating in February 1991 and determined that 50 percent were in the middle of a participation spell lasting more than 96 months (8 years).

Table 5 presents the median participation spells of all FSP participants and of participants in key subgroups as estimated by Gleason et al. Estimates for the entry cohort reflect the participation patterns of all individuals that entered the FSP during the 1991 SIPP panel. Estimates for the cross-sectional cohort reflect the participation patterns of all individuals participating in February 1991 (subgroup spell lengths were not estimated for the cross-sectional cohort).

TABLE 5
DURATION OF PARTICIPATION SPELLS IN THE EARLY 1990s

FSP Population	Entry Cohort ^a	Cross-Sectional Cohort ^b
	Median Spell Length (Months)	Median Spell Length (Months)
Total FSP	9	>96
Individuals in households with:		
Pure elderly/disabled	12	n.a.
Female head and children	19	n.a.
Noncitizens	8	n.a.
Able-bodied adults, no children	4	n.a.
Income below poverty	13	n.a.
Black or Hispanic household head	12	n.a.
White or other household head	8	n.a.

Source: Gleason et al., 1998 (based on 1991 SIPP Panel).

^aEntry cohort includes all individuals who enter the FSP during the analysis period.

^bCross-sectional cohort includes all individuals participating in February 1991.

Gleason et al. concluded that the increase in the FSP caseload between the late 1980s and early 1990s was driven by an increase in the average spell length (that is, a decrease in the exit rate) as opposed to an increase in the entry rate. The median participation spell length for new entrants—nine months—was longer than the estimate by Burstein (1993) for the late 1980s—six months. Similarly, Gleason et al. found that the fraction of food stamp entrants who ended up staying in the program for at least two years increased from one-fifth to one-third between the late 1980s and the early 1990s. The rate at which non-participants entered the FSP remained relatively steady during this period.

These findings are consistent with other studies. Martini and Allin (1993) found that the percentage of FSP participants with spells longer than two years was greater among those who

entered the program in the early 1990s than among those who entered in the late 1980s. Bartlett et al. (1995) estimated that the median participation spell in the early 1990s was eight months.

Gleason et al. examined the determinants of FSP entry and exit and concluded that economic circumstances and household structure were the most important factors. In particular, the authors found that:

- The most significant trigger event for entry into the FSP was a decrease in household earnings.
- Individuals who were working when they entered the FSP participated for shorter periods of time.
- For individuals who were not working, the longer they were out of work, the longer they participated in the FSP.
- FSP participants receiving cash welfare tended to participate longer than other FSP participants.
- Food stamp recipients in female-headed households with children remained on the program longer than other recipients.

Wilde (2001) conducted a repeat cross-section analysis of FSPQC data from 1990 to 1999 to examine trends in FSP replacement and exit rates. He estimated that the median spell length of new entrants was 7 months, and that the proportion of the caseload in the midst of a spell exceeding 24 months ranged from about 37 percent in 1990 to 53 percent in 1999. In contrast with Gleason et al., Wilde attributed changes in the caseload trends of the 1990s to changes in the entry rate, as opposed to changes in the exit rate (i.e., participation spell length).

A key goal of this study is to update the estimates of the length of participation spells using both SIPP and FSPQC data. Using both sets of data, we estimate median spell lengths for both entry and cross-sectional cohorts, and for the entire FSP as well as key subgroups.

D. OUTLINE FOR REMAINDER OF REPORT

Chapter II of this report examines FSP replacement and exit rates. Using both FSPQC- and SIPP-based estimates, we explore the degree to which caseload changes in the 1990s were driven by changes in the replacement rate versus changes in the exit rate. Chapter III examines the length of time FSP participants take part in the program. Again, estimates are constructed using both FSPQC and SIPP data. In Chapter IV, we examine what conclusions we can draw from the FSPQC- and SIPP-based analysis.